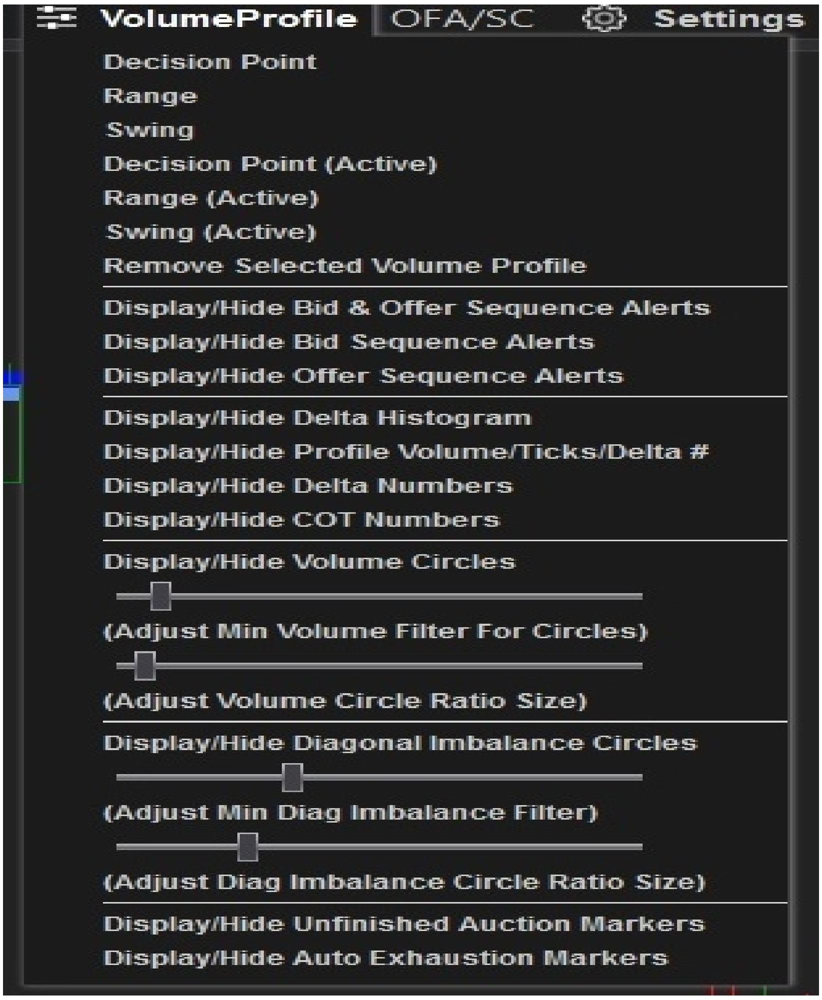
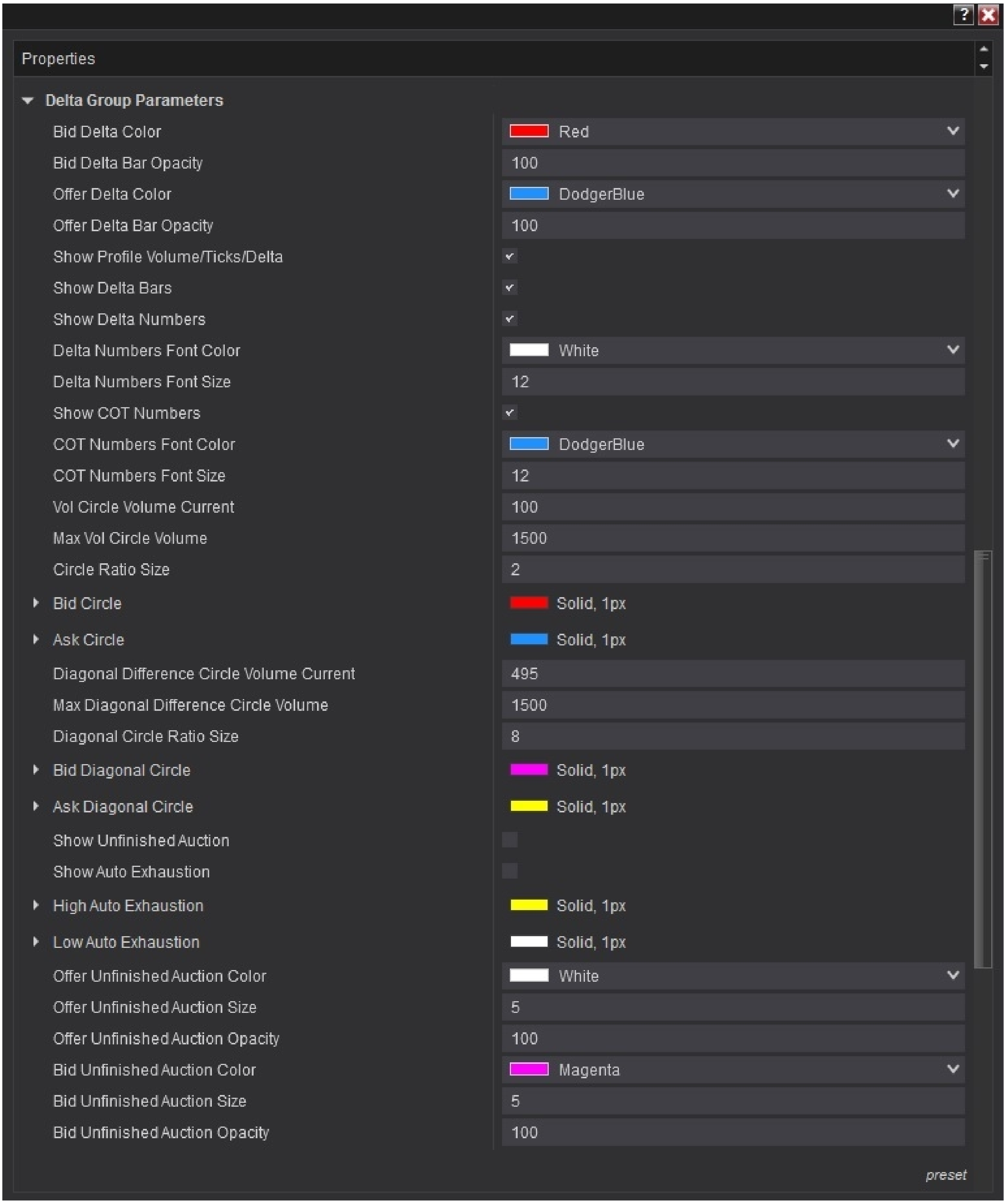
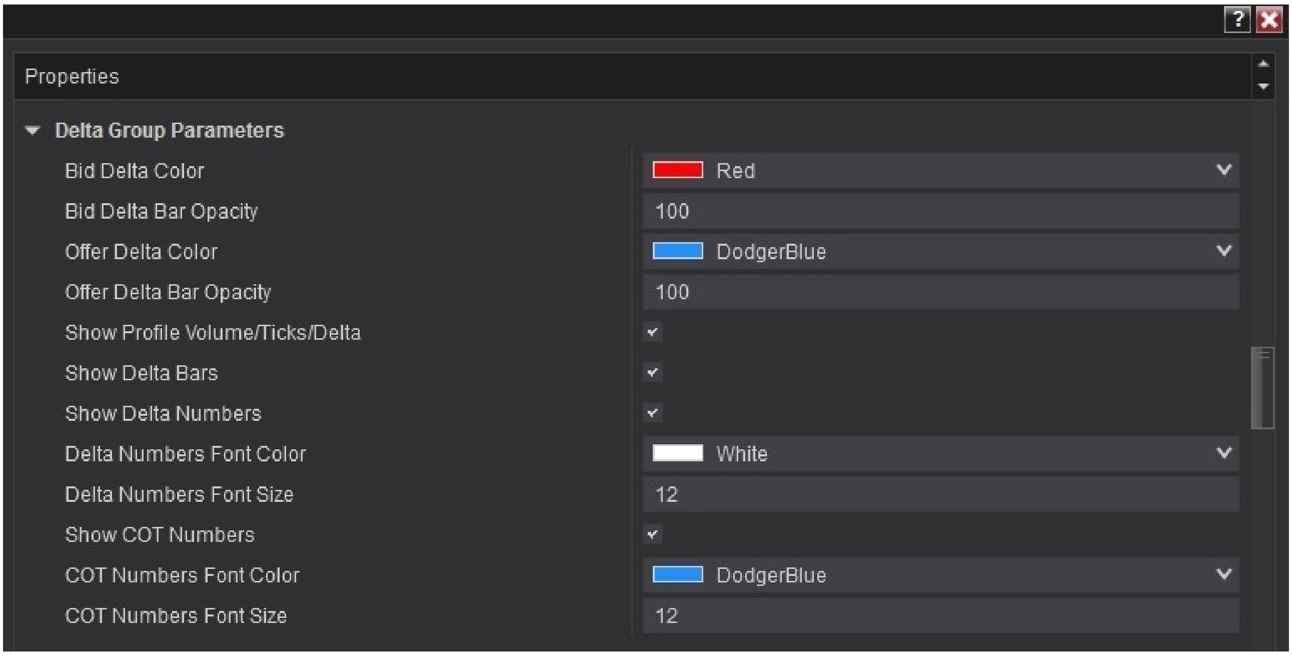
The following section covers the Delta Addon functionality and settings in the OFA indicator settings panel & the use and operation of the controls on the VolumeProfile Menu.

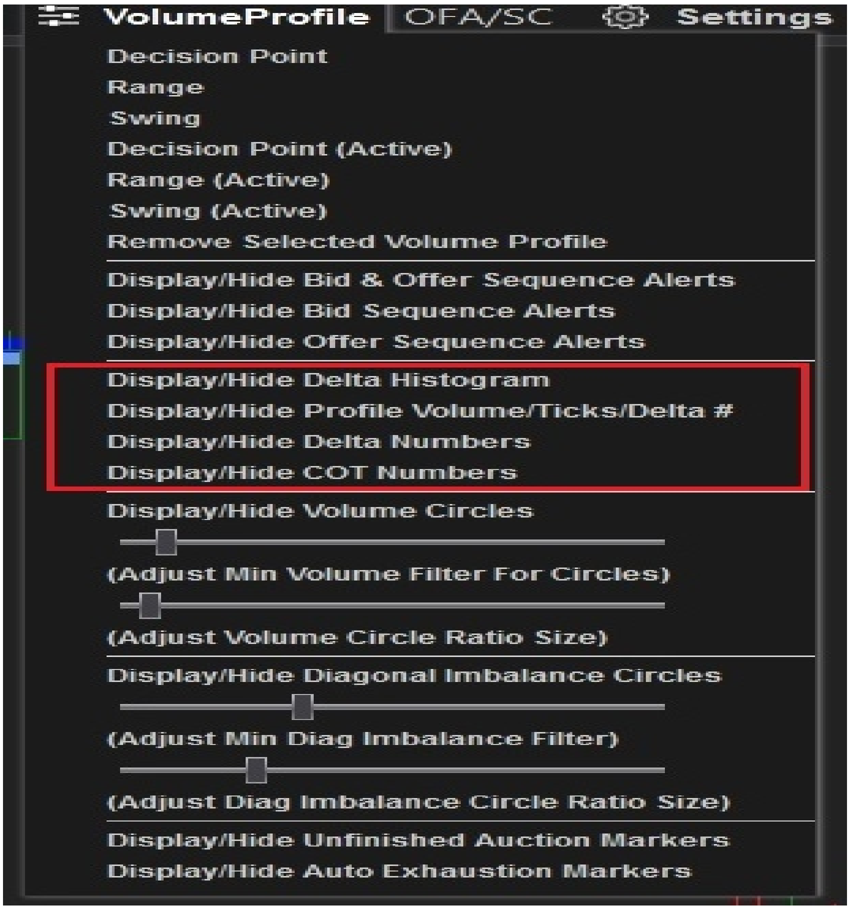


This screen shows the entire set of Delta Parameters and these are covered in the following section one group at a time.



This section covers the Delta Histogram ; Profile Volume/Ticks/Delta values and the Delta Numbers and COT Numbers that appear above or below each period bar. The Delta & COT Numbers will appear as part of the core OFA version : The Delta Histogram and all other elements in this document require the Addon Authorization in order to function and to be enabled in the menu shown below : In addition to the following elements : ***the Fib Tab covered in the Volume Profile Settings Document*** is also included in the Delta Addon package and ***requires authorisation*** for the effects and application of the settings to the volume profile region.



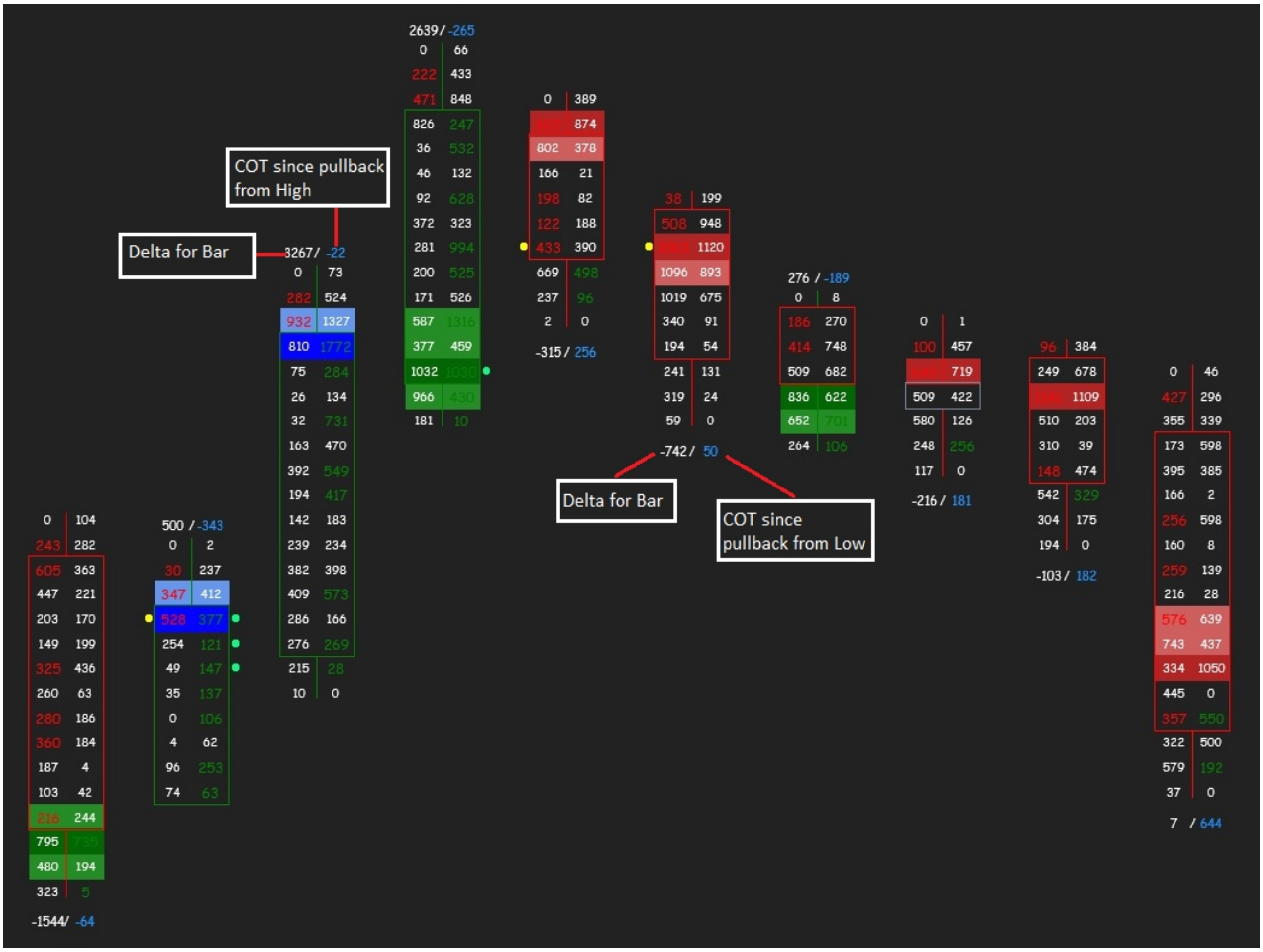


You will see in the Delta Group Parameters section of the OFA Indicator parameters the items : Show COT Numbers and Show Delta Numbers ; you will see the numbers above in a Probes Up bar and below the candle/bar in a Probes down bar. You will see two numbers :

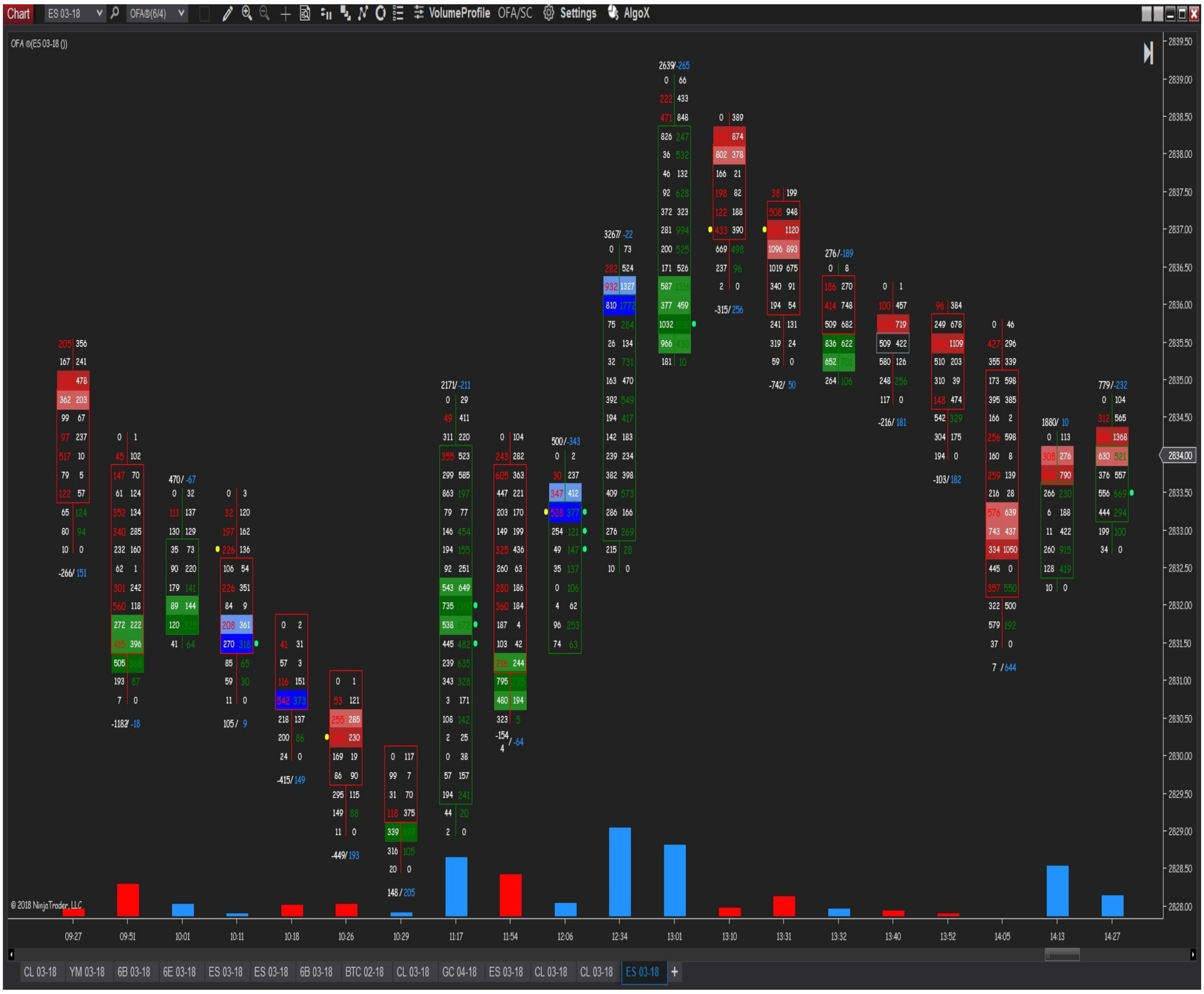
The number on the left represents the total delta for the entire period ; so if we were to take all the values at the offer and subtract all of the values at the bid we come up with a total number.

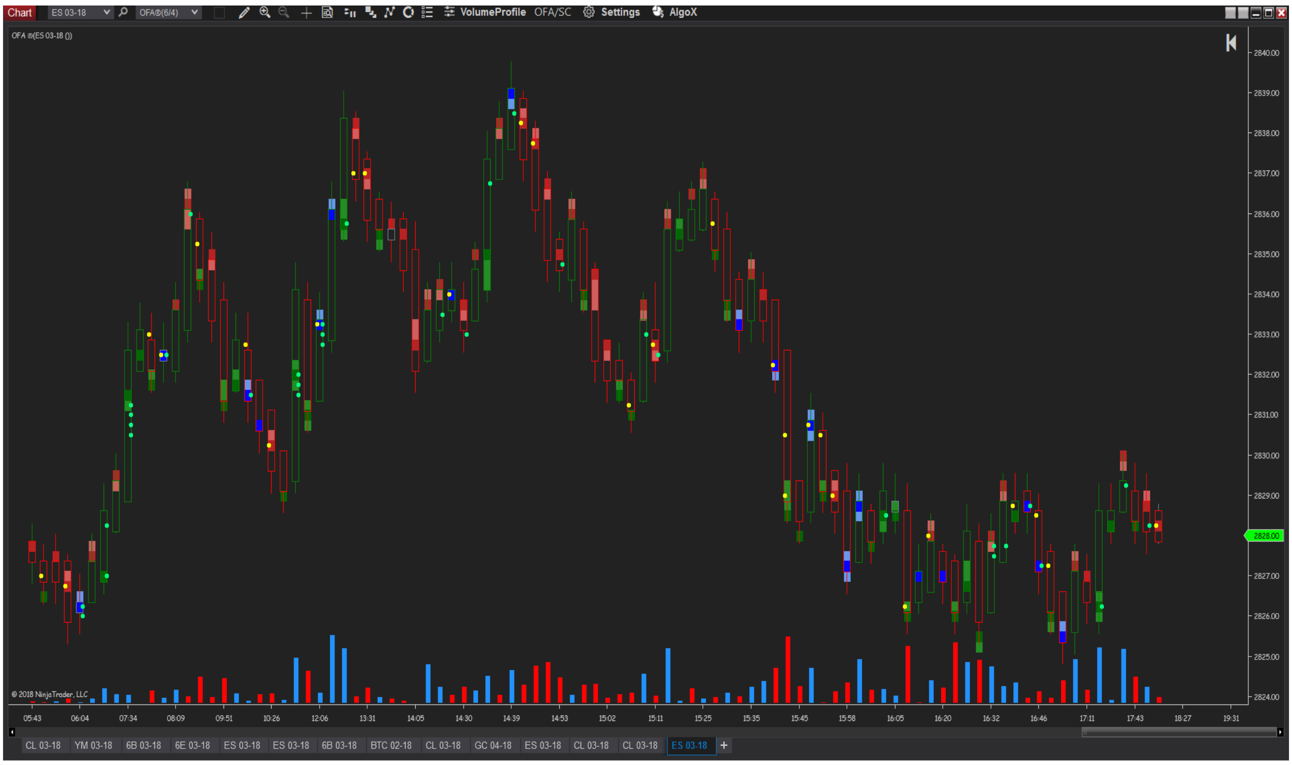
The second number (COT) represents the pullback before a new period is created in this case we are taking the values of the bid minus the ask in the upper portion and doing the same subtracting process.
The number is reset everytime we come up and make a new high or go down and make a new low ; thus everything that was printed prior is excluded ; so we are taking the delta since we pulled back or rotated. Some people find this information useful.

See the chart below for how these numbers are displayed. The above panel illustrates where the Color, Font size can be adjusted for each of these numbers.



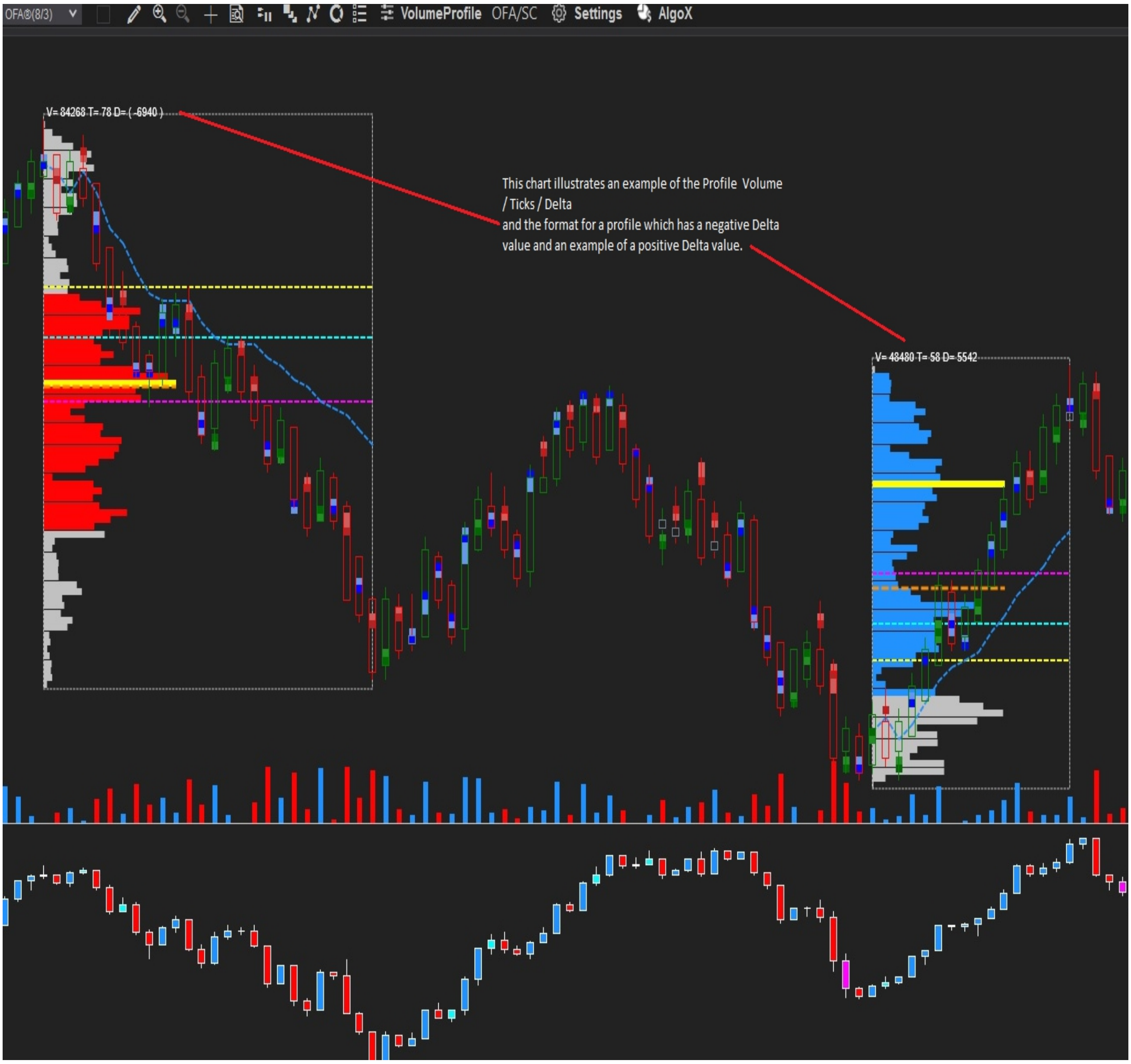
The Delta histogram is a new addition which appears as a histogram within the same panel as the OFA price bars. The rationale for this approach is to use less valuable screen real estate which is required when opening a separate indicator panel in Ninjatrader 8. The scaling of this will be relative to the visible range of bars that appear in the chart panel & will scale accordingly for Delta Values of higher order. The convenience ***Display/Hide Delta Histogram*** menu item that can be seen above enables the user to toggle between having this hidden or displayed. The color and opacity of these bars can be modified in the parameter settings shown also in the above graphic. The width of these histogram bars is scaled according to the bar width on display ; and thus will appear wider when being used in the print display versus the structure display of OFA bars shown below :





The next item in this delta group is the ***Profile Volume/Ticks/Delta*** numbers. These numbers are calculated for each Volume Profile added to the chart. These comprise of the ***total volume*** for the profile region ; the ***Ticks*** between the ***profile high & low*** ; the ***cumulative net Buy/Sell volume (Delta)*** for the profile. An example of the format for negative Net Volume where Selling volume exceeds the Buying volume for the profile region is as follows : (-2500) : this means the profile is net 2500 Selling; & the negative value is bracketed to distinguish from positive values. Where Buying volume exceeds the Selling volume the format is the # value without brackets. The chart below depicts an example of each where the set of numbers is displayed on the top left area just above the profile high price level.

The convenience ***Display/Hide Profile Volume/Ticks/Delta #*** menu item that can be seen above enables the user to toggle between having these values hidden or displayed. The color of the text used is derived from the color setting of the Standard Deviation lines in the volume profile.



The next section covers the ***two groups*** of ***volume circle analysis*** tools provided in this version.

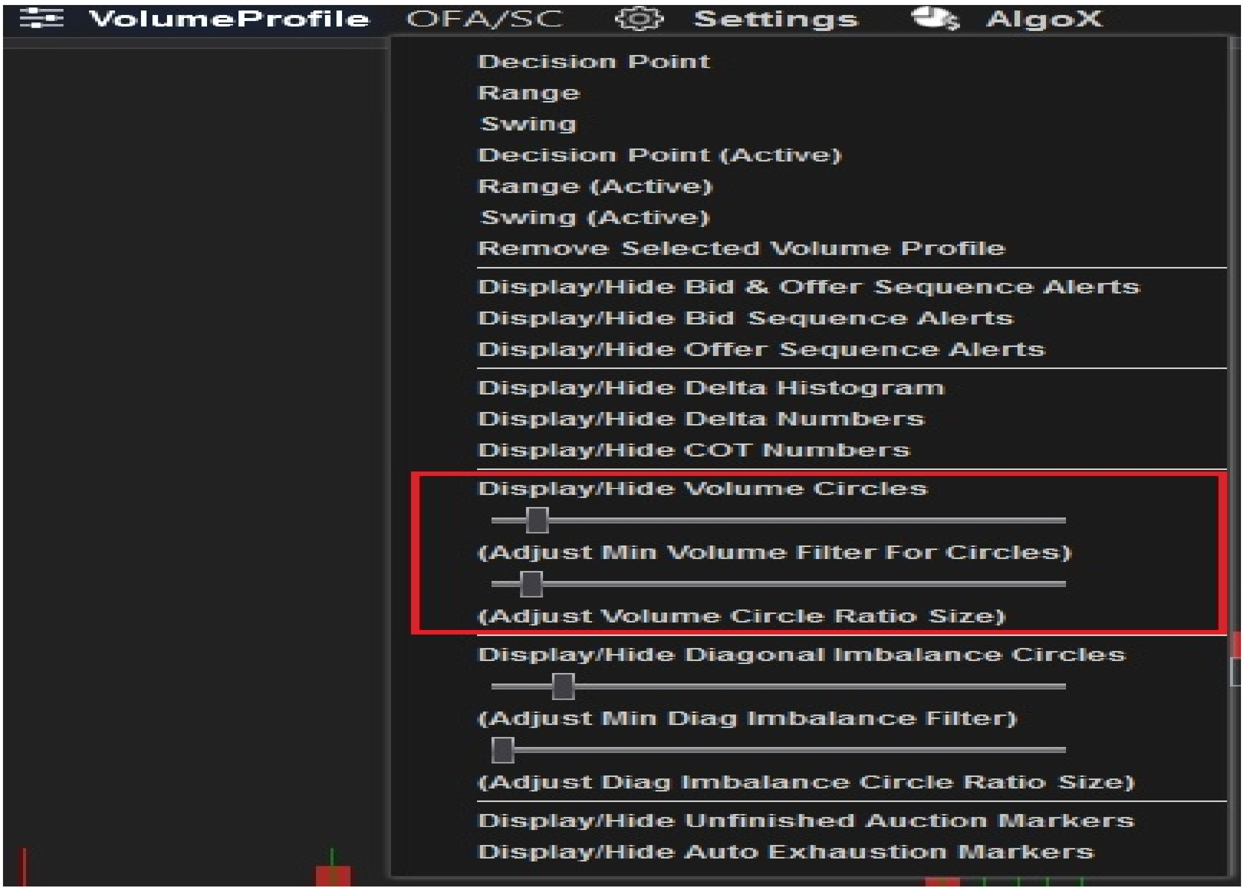
The first of these is as shown in the menu below and will draw a circle that is scaled to the volume numbers at the bid or ask price level for the OFA bars within the visible range of the chart.

The circle will appear when the volume at the bid or ask price level is AT A MINIMUM the current slider setting value on the slider control. In other words the volume at the bid or ask (and these are denoted by different color circles) must be greater than the slider control value in order for a circle to appear. This can be a useful tool to facilitate visually marking bid ask levels at price where significant volume appeared & may be if interest in our analysis. As has already been stated in the PrintMode&Settings document at every price level and on each side of the bar, the number represents an equal number of buyers & sellers. The focus of this tool is to filter out where significant Aggressive Buying or Selling took place and to visually mark this with the circles.

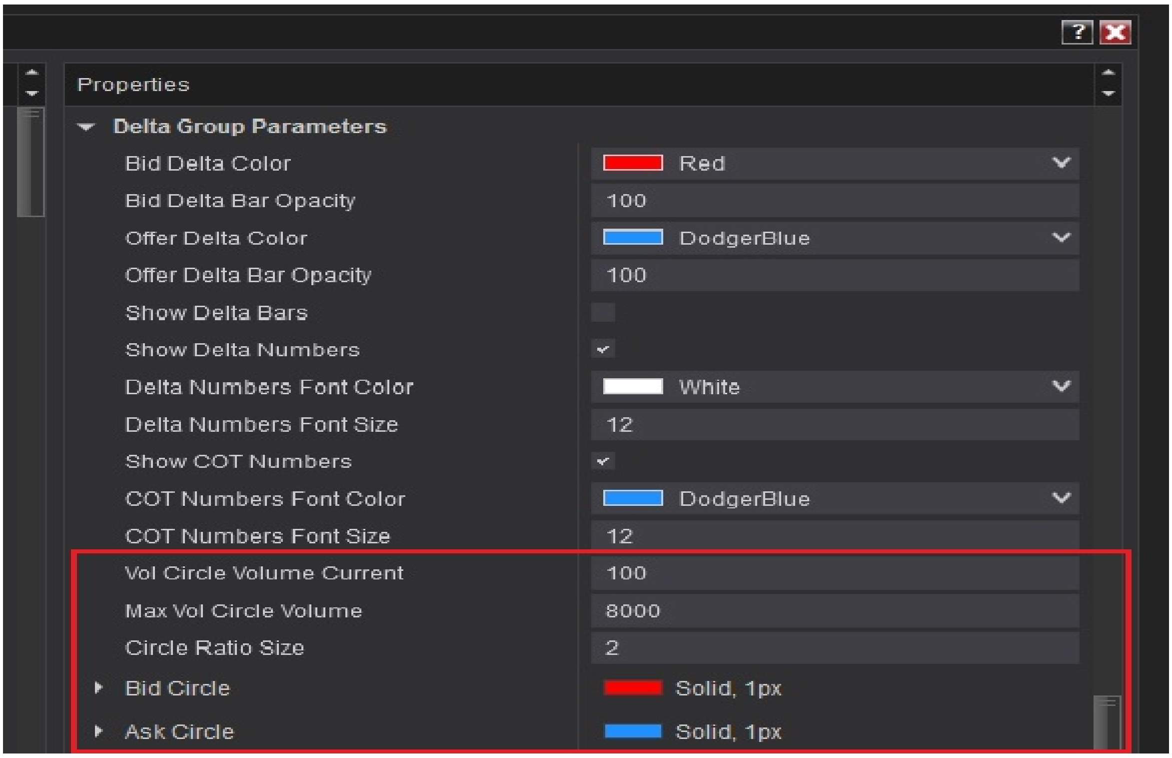
Since each instrument has different volume & liquidity characteristics one can dynamically adjust the slider control to guage what level of volume we wish to set as the minimum for the current chart period/session of trading without the need to reload the indicator with values set in the parameters.

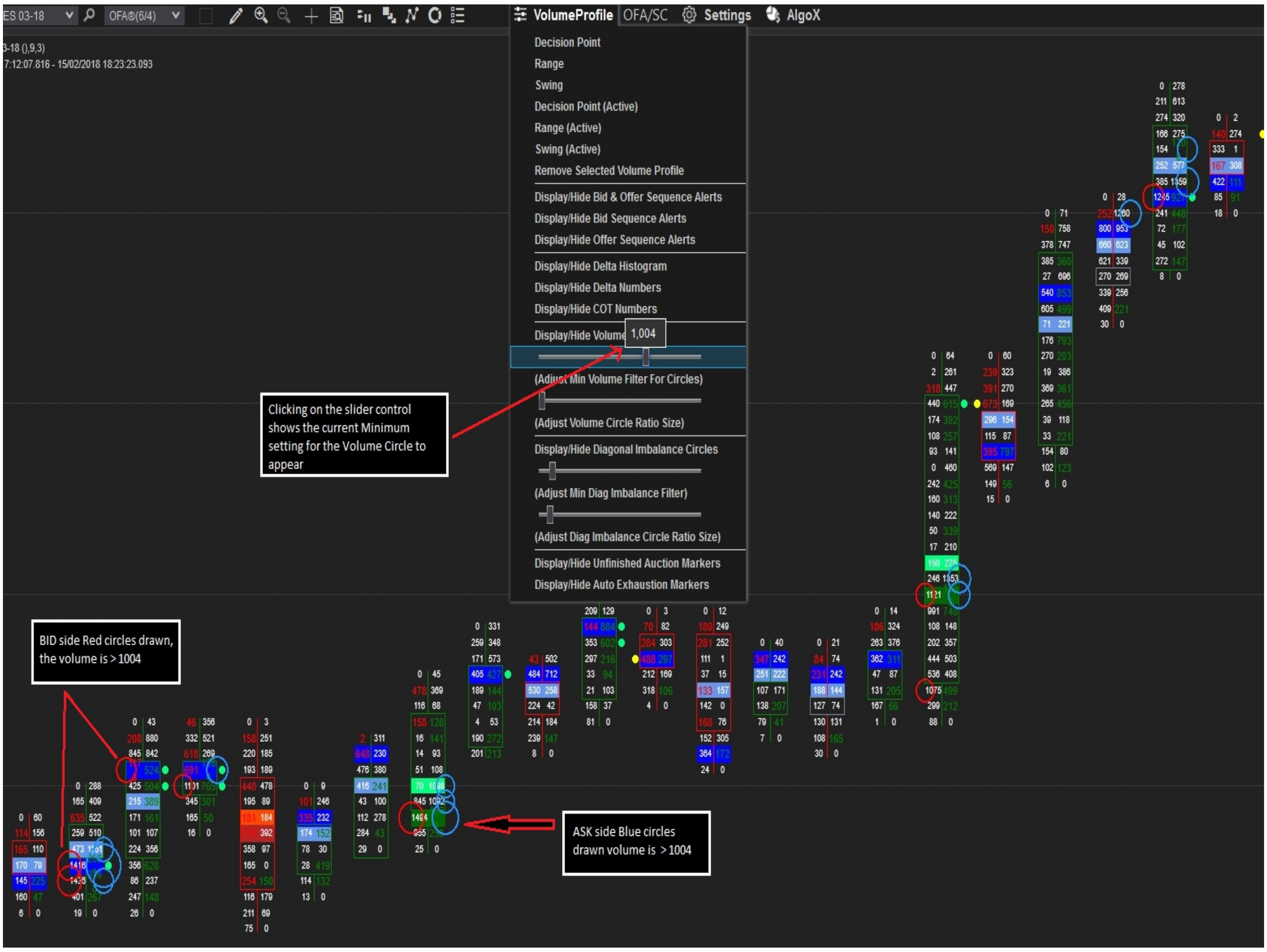
The ratio size of the circle can be adjusted also via the slider control and is a factor of the current bar width on display in the chart panel. Adjusting the X axis by holding the left mouse button down and expanding/contracting the width of the bars will automatically adjust the circle size also.

The Display/Hide Volume Circles is a convenience toggle to enable the user to show or hide the circles. The default currently when loading the chart is to Hide the circles, removing unnecessary clutter when initially reviewing the chart. These can easily be enabled by clicking on the Display/Hide menu item for this type of Volume circle.



In the parameters section below, note that the Color, opacity, width and style of the circles can be modified. This is where we additionally set what value we wish to be the MAX size of the slider for the instrument on this chart. For example the ES will have a higher setting eg. 9000 or more versus the CL or 6E with 1200 and 600 values used respectively for these instruments. This is settable and adjustable in the parameters by the user.





The above chart depicts and example of the Volume Circles at Bid or Ask where volume exceeds the Minimum Value highlighted in the Slider Control setting.

The **second** of these is as shown in the menu below and will draw a circle that is scaled to the volume numbers at the bid or ask price level for the OFA bars within the visible range of the chart.

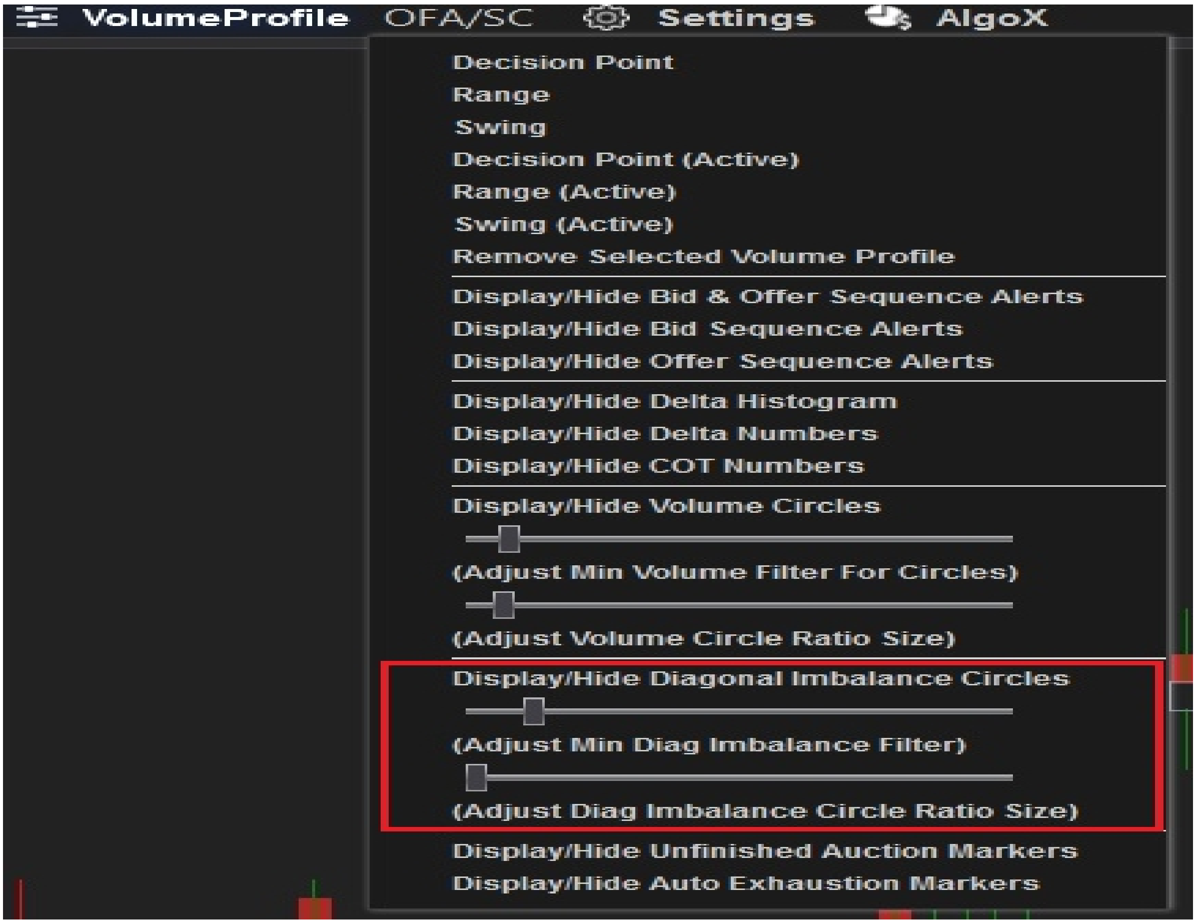
The circle will appear when the ***Diagonal difference*** between the bid volume and the ask volume (at 1 tick above the bid price) is AT A MINIMUM the current slider setting value on the slider control. In other words the volume difference on the Diagonal between the bid & ask / ask & bid (and these are denoted by different color circles) must be greater than the slider control value in order for a circle to appear. This can be a useful tool to facilitate visually marking bid ask levels on the Diagonal Imbalance comparison where significant volume appeared & may be if interest in our analysis. As has already been stated in the PrintMode&Settings document at every price level and on each side of the bar, the number represents an equal number of buyers & sellers. The focus of this tool is to filter out where significant Aggressive Buying or Selling took place based on the Diagonal comparison and to visually mark this with the circles.

Since each instrument has different volume & liquidity characteristics one can dynamically adjust the slider control to guage what level of volume we wish to set as the minimum for the current chart period/session of trading without the need to reload the indicator with values set in the parameters.

Please note in the case of the Diagonal volume difference case : if either the bid volume or ask volume is 0 (Zero) in the diagonal no difference calculation will apply. Both the bid and ask volumes in the diagonal must have a volume greater than 0 (Zero).

The ratio size of the circle can be adjusted also via the slider control and is a factor of the current bar width on display in the chart panel. Adjusting the X axis by holding the left mouse button down and expanding/contracting the width of the bars will automatically adjust the circle size also.

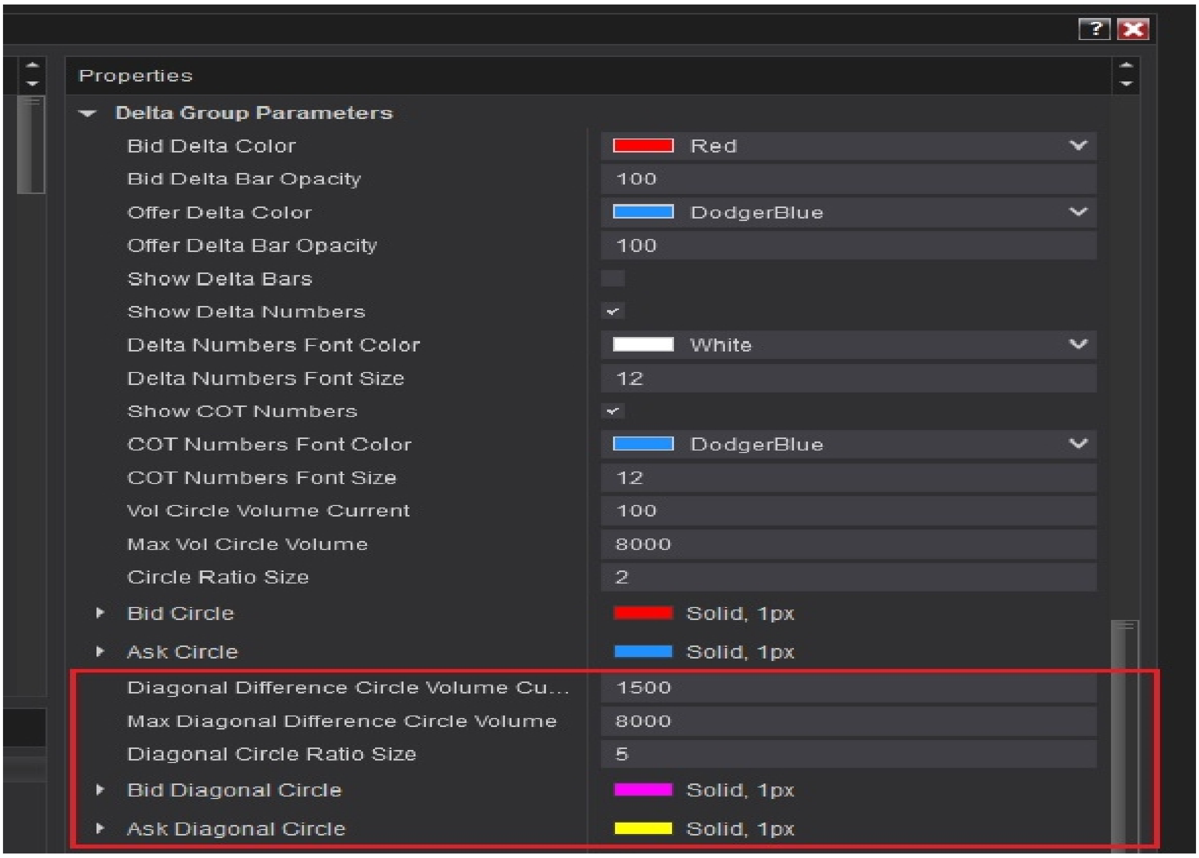
The Display/Hide Diagonal Imbalance Circles is a convenience toggle to enable the user to show or hide the circles. The default currently when loading the chart is to Hide the circles, removing unnecessary clutter when initially reviewing the chart. These can easily be enabled by clicking on the Display/Hide menu item for this type of Volume circle.

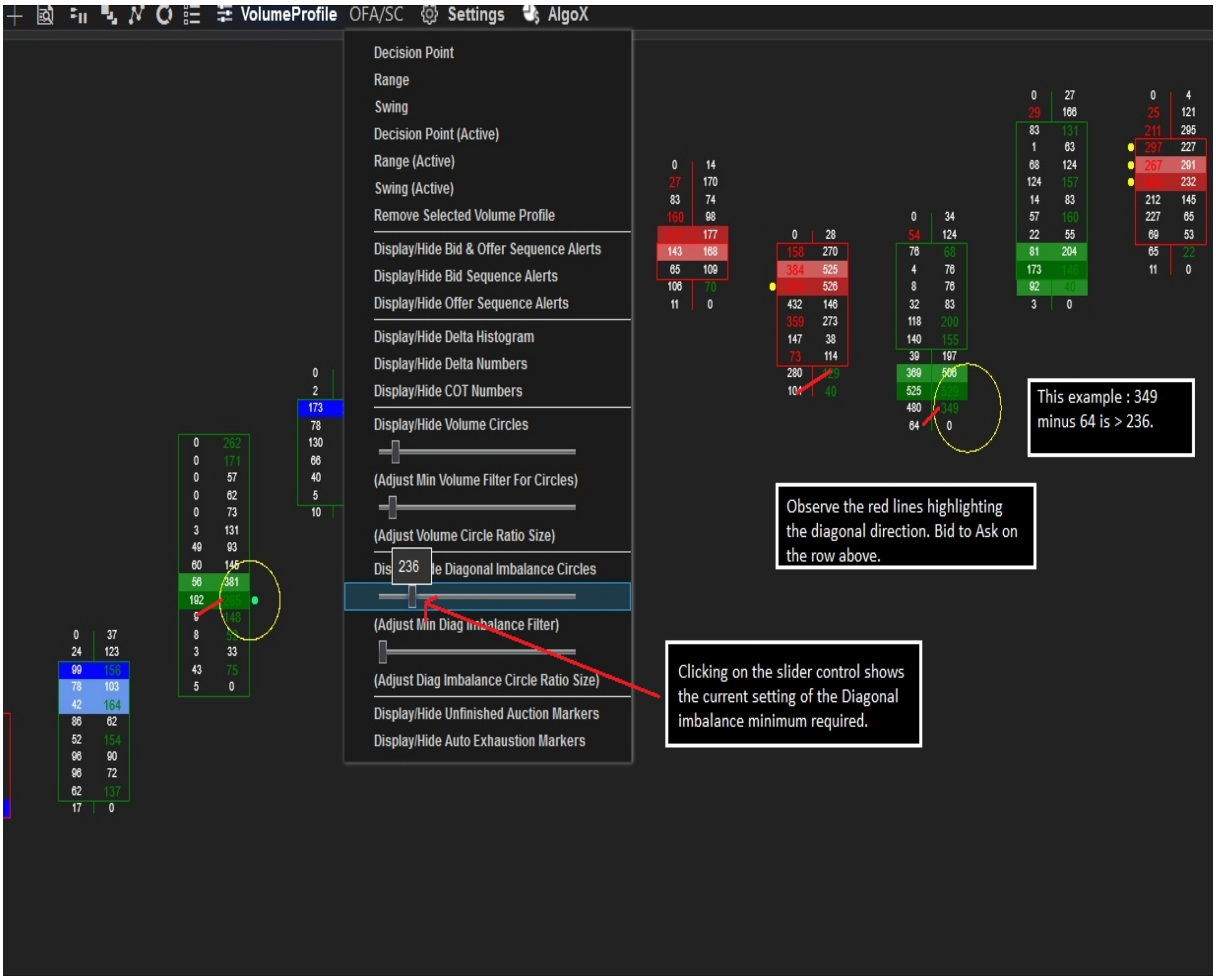


In the parameters section below, note that the Color, opacity, width and style of the circles can be modified. This is where we additionally set what value we wish to be the MAX size of the slider for the instrument on this chart. For this type of volume analysis circle the MAX is based on the diagonal difference between the bid and the ask volumes.

For example the ES will have a higher setting eg. 6000 or more versus the CL or 6E with 800 and 300 values used respectively for these instruments. This is settable and adjustable in the parameters by the user. The chart picture following illustrates an example of this and the slider value and the diagonal comparison direction for the calculation.

With practice and time the use of the slider controls & dynamically adjusting the values which work best for the current trading conditions and volume ; will become more intuitive, including the ratio size of the circle. Typically for print mode display a ratio size of 1 will suffice – for structure charts depending on the number of visible bars and the current minimum volume setting a bigger ratio size to visualise more prominent volume zones will be needed. This technique applies to both types of volume filter described.


Properties
Delta Group Parameters
Bid Delta Color
Red
Bid Delta Bar Opacity
100
Offer Delta Color
DodgerBlue
Offer Delta Bar Opacity
100
Show Delta Bars
Show Delta Numbers
Delta Numbers Font Color
White
Delta Numbers Font Size
12
Show COT Numbers
COT Numbers Font Color
DodgerBlue
COT Numbers Font Size
12
Vol Circle Volume Current
100
Max Vol Circle Volume
8000
Circle Ratio Size
2
Bid Circle
Solid, 1px
Ask Circle
Solid, 1px
Diagonal Difference Circle Volume Cu...
1500
Max Diagonal Difference Circle Volume
8000
Diagonal Circle Ratio Size
5
Bid Diagonal Circle
Solid, 1px
Ask Diagonal Circle
Solid, 1px


VolumeProfile
OFA/SC
Settings
AlgoX
Decision Point
Range
Swing
Decision Point (Active)
Range (Active)
Swing (Active)
Remove Selected Volume Profile
Display/Hide Bid & Offer Sequence Alerts
Display/Hide Bid Sequence Alerts
Display/Hide Offer Sequence Alerts
Display/Hide Delta Histogram
Display/Hide Delta Numbers
Display/Hide COT Numbers
Display/Hide Volume Circles
(Adjust Min Volume Filter For Circles)
(Adjust Volume Circle Ratio Size)
236
(Adjust Min Diag Imbalance Filter)
(Adjust Diag Imbalance Circle Ratio Size)
Display/Hide Unfinished Auction Markers
Display/Hide Auto Exhaustion Markers
This example : 349 minus 64 is > 236.
Observe the red lines highlighting the diagonal direction. Bid to Ask on the row above.
Clicking on the slider control shows the current setting of the Diagonal imbalance minimum required.

How we utilize this information will depend on our trading style & experience and the depth of understanding of volume on both the market order side (aggressive side) and the passive side (limit orders on the Order Book).

Some questions to consider when noticing high volume at price OR on the Diagonal difference (Imbalance) are : was there follow through on the volume (effort vs result) ? Do we see trapped traders in this volume zone of price. Again remember where we see market order volume in the print there is an equal number of limit sellers on the other side in the case of volume at the Ask & an equal number of limit buyers on the Bid side in the case of volume at the bid. Consider the type of buyer and seller in each zone being analyzed. Example on a structure chart can be seen below :

The next feature to cover here is the term ***'Unfinished Auction'*** : sometimes called 'Unfinished business', and is used to describe when the extreme price for a period/bar (either High, Low or both) has both Buy AND Sell volume. This pattern is only visible on a print chart because you can see inside the bar.
An unfinished auction that occurs on the high tick looks like the example below. Notice there is both bid and ask volume at the extreme (high price).

So while at each price there is a battle between buyers and sellers, the unfinished auction pattern shows that buyers want to take the price higher but are being challenged by sellers.

With this pattern it has been typically found (thought not in all instances) that it creates a magnet/target for the market to retest. Whether it happens immediately or not and often later, price tends to come back and test or trade through where the unfinished auction pattern occurred.

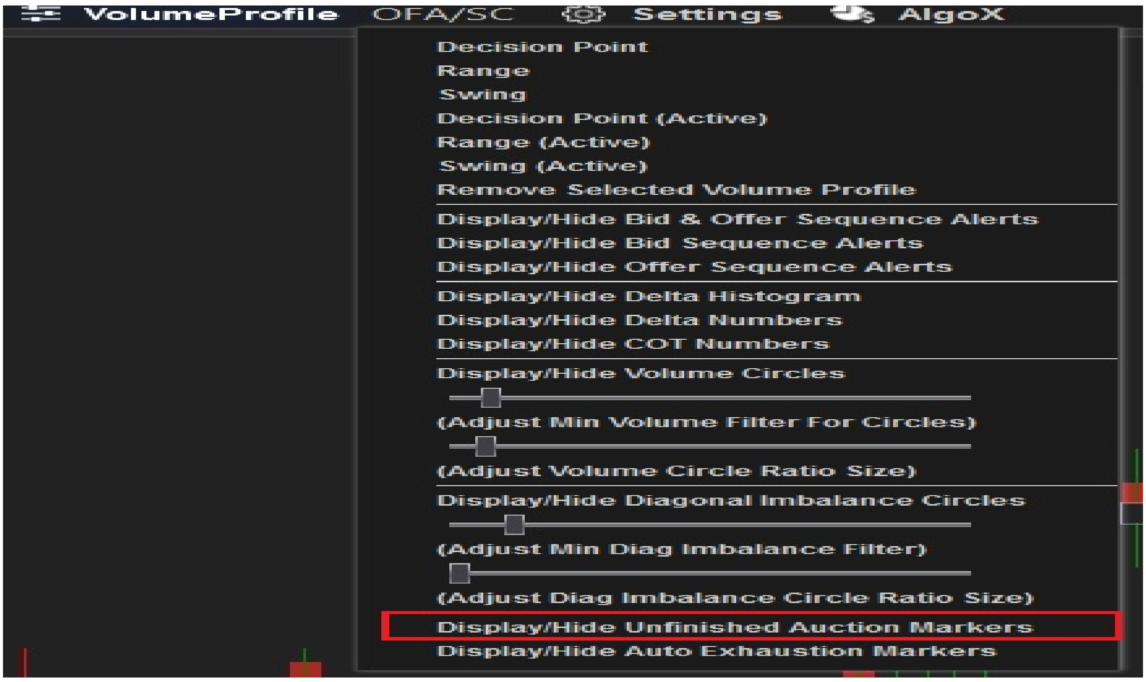
A 'completed auction' is when the unfinished auction has been satisfied; that being when the price of the unfinished auction trades again.

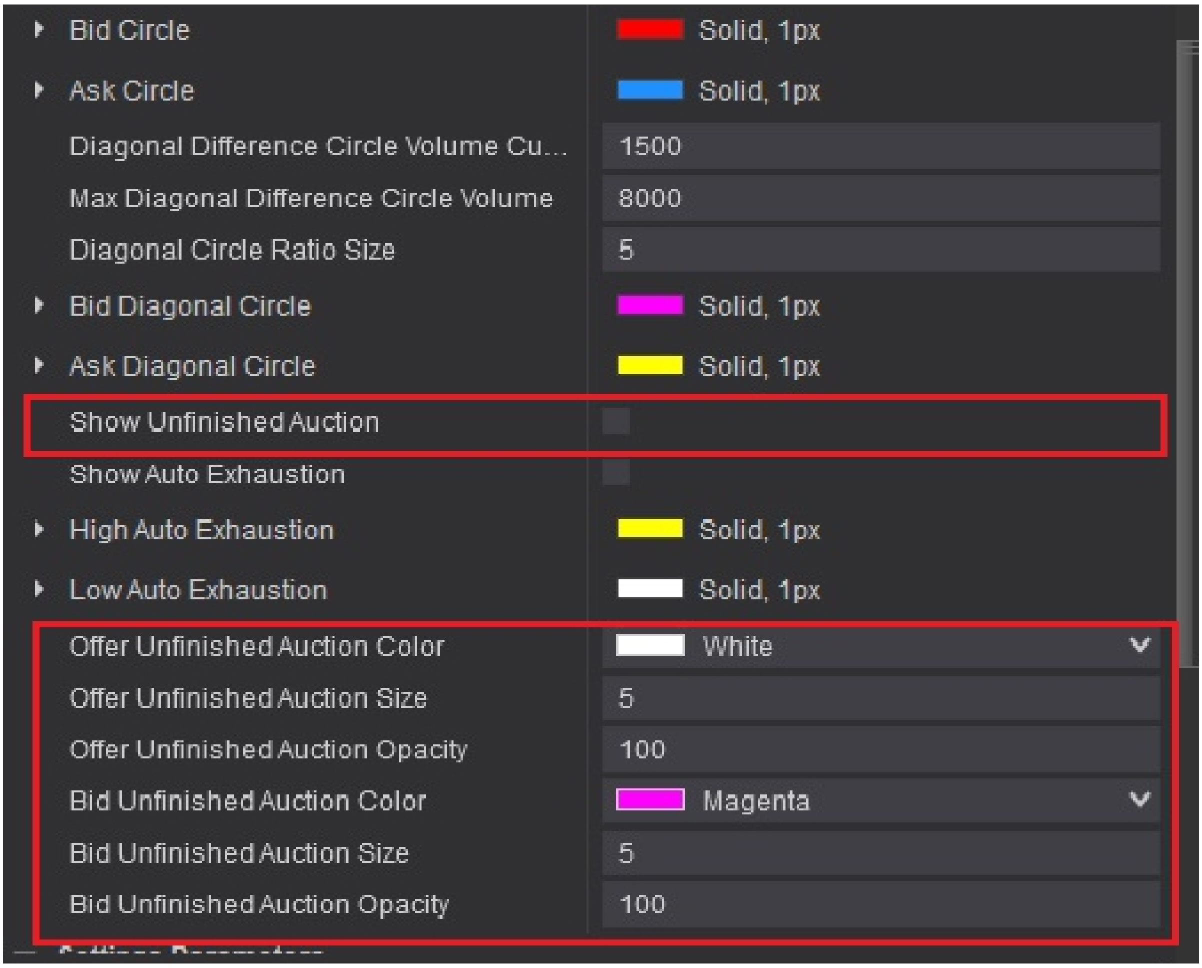
Suggested areas of application of the pattern are at Swing Highs or swing lows or at key levels you may be using.

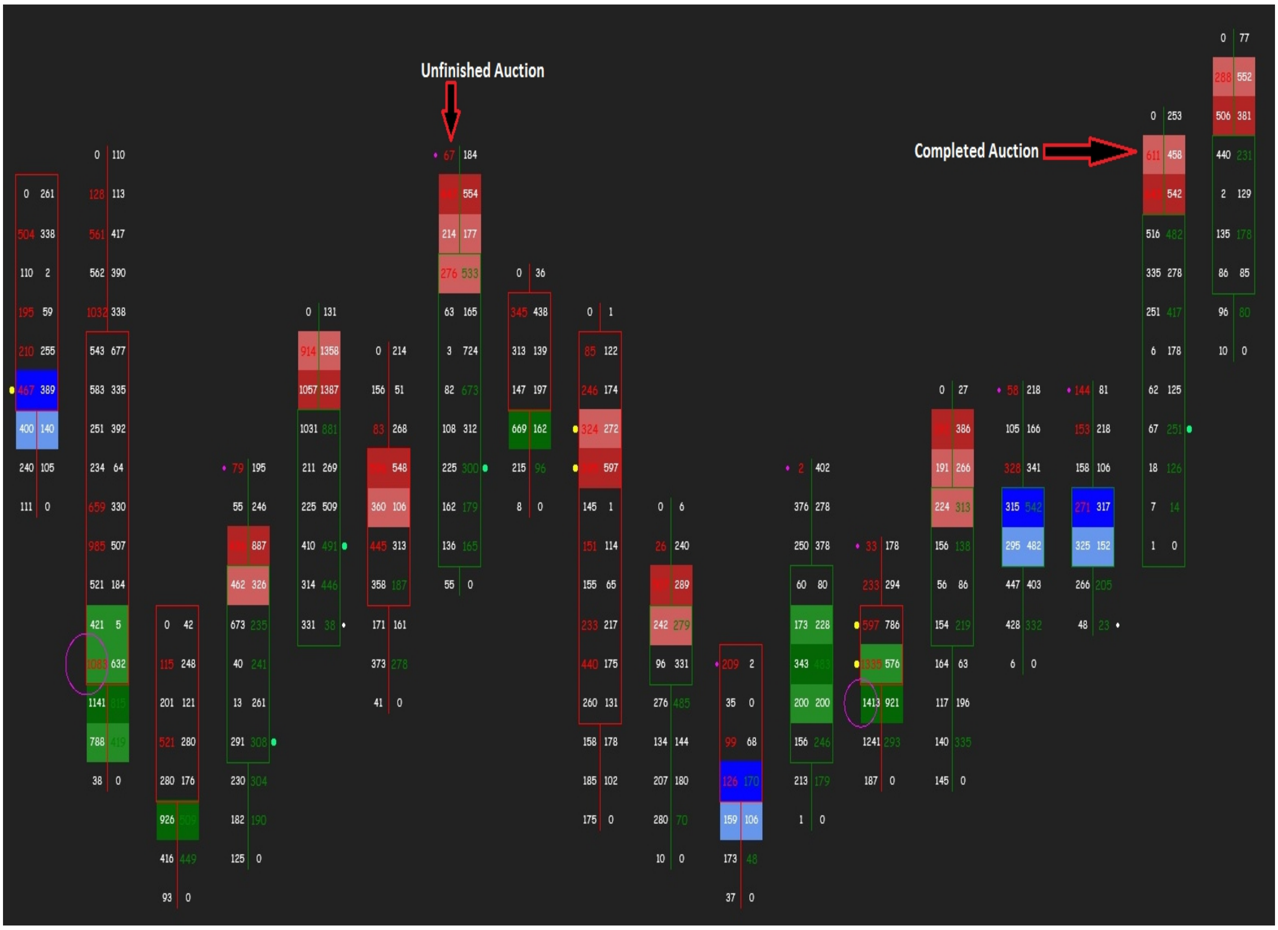
Different instruments with varying market liquidity will vary on the effectiveness of this pattern. The ES with higher liquidity would appear to be a good example of where to practice and explore this pattern and its occurrence. Another aspect to consider is which of the OFA bar types is being used on the chart; and it is suggested to start with the OFA Probe and Rotation bars since these are more aligned with the auction market process.

This pattern is detected in the print and is marked with a color dot (see the parameters section below) on the Bid & Ask side where it appears. When switched to Structure chart mode without the bid/ask volume numbers we can also see the color dot marker for users of the structure chart mode in their trading. The color, opacity and size of these dots are configurable in the parameter settings.

The VolumeProfile menu provides a convenience Display/Hide toggle to display these unfinished auction markers or hide them without the need to reload the indicator.

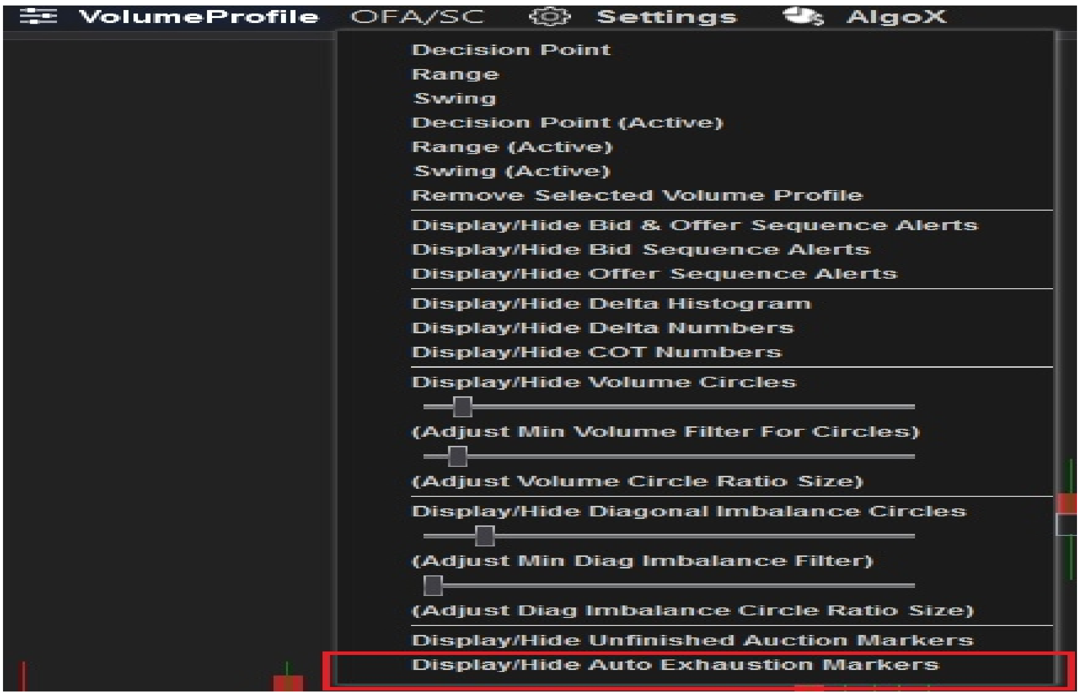



Bid Circle
Solid, 1px
Ask Circle
Solid, 1px
Diagonal Difference Circle Volume Cu...
1500
Max Diagonal Difference Circle Volume
8000
Diagonal Circle Ratio Size
5
Bid Diagonal Circle
Solid, 1px
Ask Diagonal Circle
Solid, 1px
Show Unfinished Auction
Show Auto Exhaustion
High Auto Exhaustion
Solid, 1px
Low Auto Exhaustion
Solid, 1px
Offer Unfinished Auction Color
White
Offer Unfinished Auction Size
5
Offer Unfinished Auction Opacity
100
Bid Unfinished Auction Color
Magenta
Bid Unfinished Auction Size
5
Bid Unfinished Auction Opacity
100

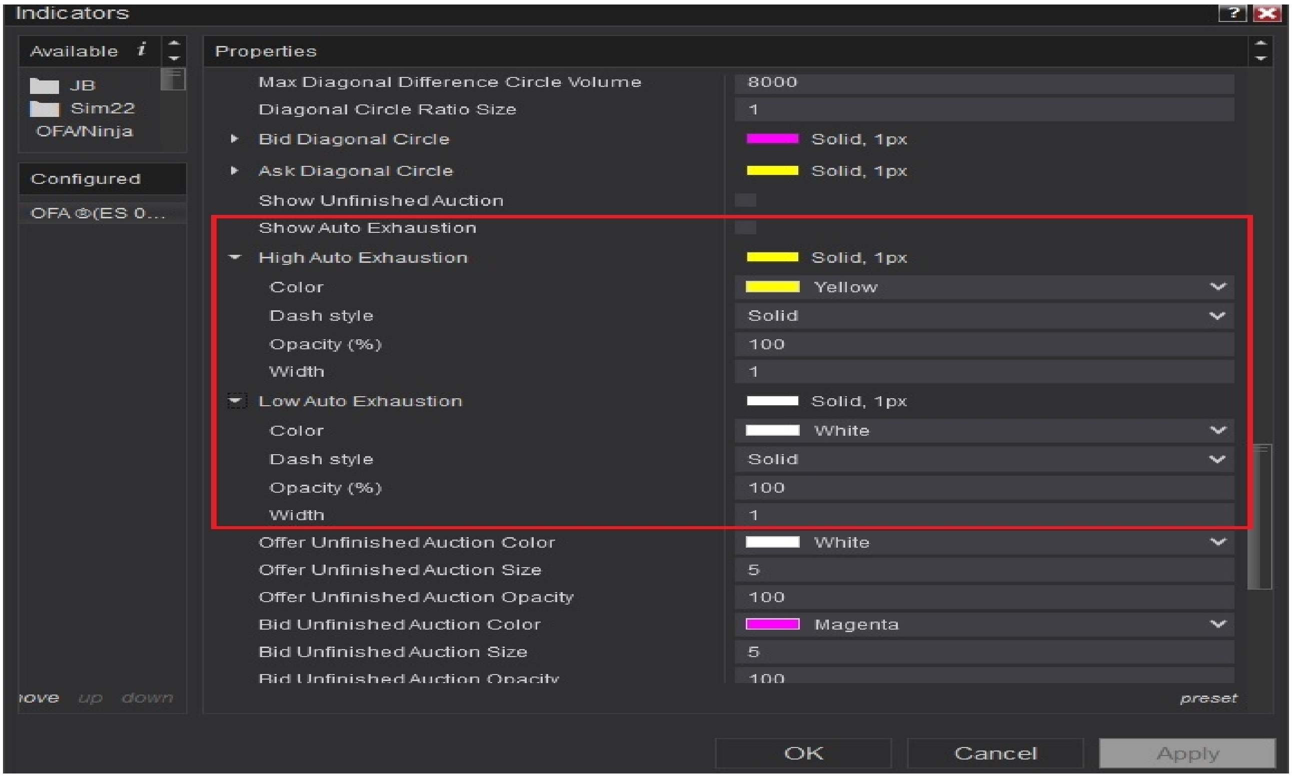


The next feature to cover here is the ***'Auto Exhaustion Marker'***

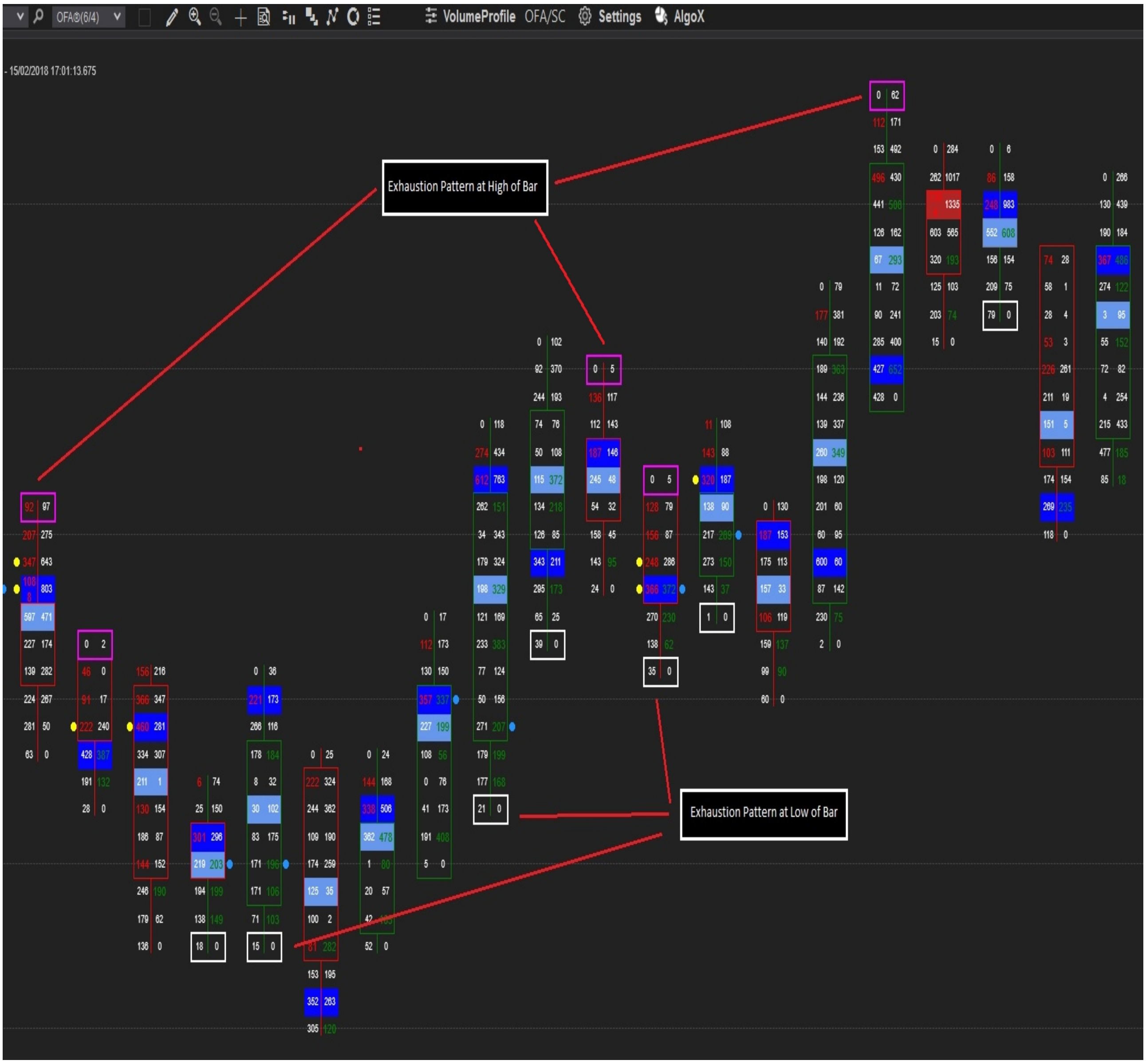
In addition to the OFA algorithms that analyze trading activity for complex patterns known as toxic order flow ; covered in the PrintMode&Settings document : An auto algorithm has been provided to detect exhaustion patterns at the High and Low of the bar period. These can be seen and turned on using the 'Display/Hide Auto Exhaustion Markers' shown below in the VolumeProfile Menu.



The color, opacity, width and style of these box/rectangle areas drawn at the High and Low when a pattern has been detected ; can be easily modified in the OFA parameters in the section highlighted below:



See example of the Exhaustion High & Exhaustion Low Algo Patterns in the Chart below :


VolumeProfile
OFA/SC
Settings
AlgoX
- 15/02/2018 17:01:13.675
Exhaustion Pattern at High of Bar
Exhaustion Pattern at Low of Bar